

PHENIX WEEKLY PLANNING



10/1/2009
Don Lynch

Completed Tasks

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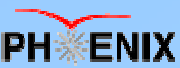
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Task

Start of shutdown tasks
Erected scaffolds in stations 1, 2 and 3 of MMS
Tools for RPC Factory: tilt table and burn in test stand
Designed and fabricated RPC installation components, fixtures
Procedures and work permits
Designed, fabricated and assembled PC1 repair fixture
Installed station 1 MuTrigger FEE upgrades
Repaired faulty DC FEMs
Removed HBD East for repairs
Massive prep for installation of RPC3 North
Replaced failed PC1 module and associated PC1 repairs
Installed RPC3 North east & west bases
DC East Repairs

Remaining RPC3 North Tasks



TECHNICAL SUPPORT NOON

- Stencil/permanent mark RPC3 lifting fixtures
- Order parts for rotating ram lift
- Remove prototype absorber
- Make rotating fixture from unistrut
- Drill & tap MuID steel 5 holes
- Install pedestal track and 6 wall tracks (pitch control)
- Install and position west and east bases
- Survey bases
- Grout bases
- Install unistrut vertical rails on east and west bases
- Install 1st half octant, attach to pedestal rail
- Install 15 more $\frac{1}{2}$ octants
- Install gas system and distribution
- Install angle supports on top of MuID steel 5
- Restore gap 5 piping and wiring
- Install 2 Racks in west trough
- Install rack components and wire up $\frac{1}{2}$ - octants
- Install new vapor barrier
- Install heaters and thermostats
- Re-Install shielding
- Final wiring and commissioning

This Week 9/28-10/2

TECHNICAL SUPPORT NOON

Task	Start Date	End Date
First $\frac{1}{2}$ octant ready for installation	Still Ready	Still Ready
MuTr decapacitations & MuTr FEE trouble-Shooting in MMS Sta 1&3	Done	Done
Install MuTrigger FEE station 2/3 FEE's & Electronics & connect cables	Done	Done
Troubleshoot MUTr decaps in MMN	Done	Done
Troubleshoot MUTrigger FEE's in MMN	Done	Done
Disassemble and store PC1 east repair fixture (Note: need carpenters to build storage box)	Done	Done
Install, align, survey & grout RPC3N east and west base support assemblies	9/21	10/2
Drill and tap MuID gap 5 steel top and north	In Progress	10/2
Remove RPC prototype absorber and support structure	9/15	10/2
DC East Repair	10/1	10/2

RPC3 Base alignment



10/1/2009



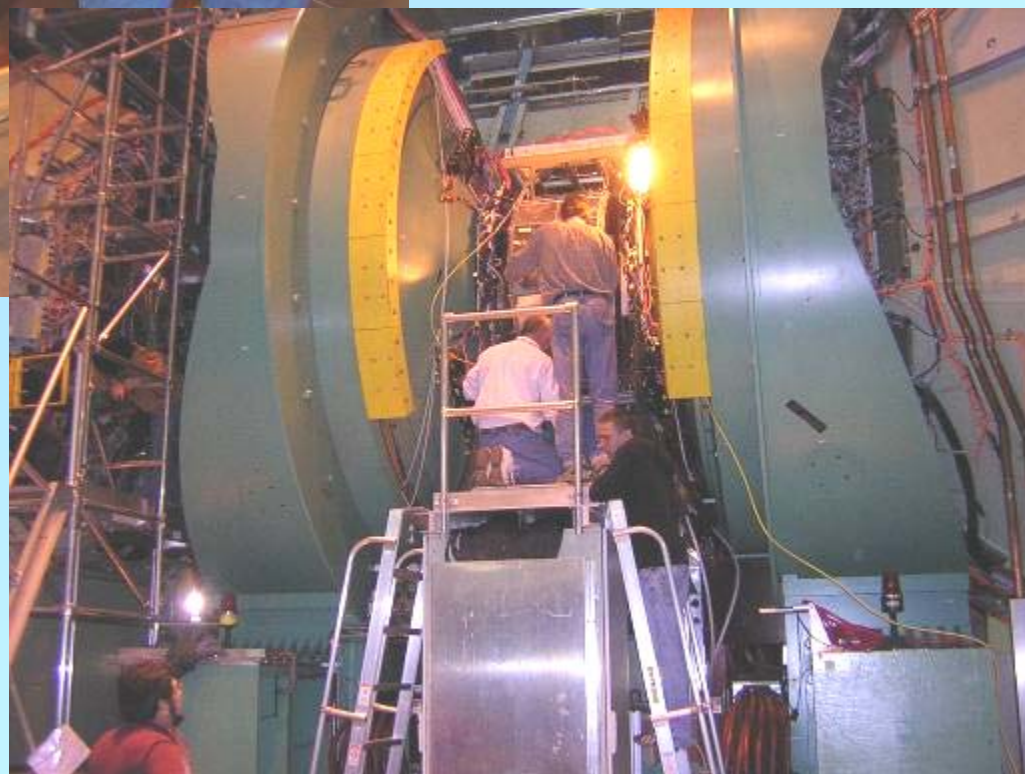
PHENIX LABORATORY

10/1/2009



PC1 East repair Done

DC East repair Done



HBD East:

Back in the saddle again

10/1/2009



Grout Dust Exhaust System

10/1/2009

Ready to grout in the RPC3 east & west bases

NOON 12072CS 73A02CHU7-1



Task

Start Date End Date

TECHNICAL SUPPORT NOON

Install MuTrigger FEE station 2/3 air & water plumbing and test

In Progress

10/9

Prep RPC3 N racks for installation

In Progress

10/9

Remove station 1 south scaffolding (may be delayed)

10/7

10/9

Analyze and test EC dumbwaiter

In Progress

10/31

Install new gap5 N cable & pipe supports, cables and piping and leak test piping

In progress

10/31

MuTr HV and FEE test and evaluation as MuTrigger FEE's & RPC's are installed

In progress

11/30

RPC3 North Installation of 16 $\frac{1}{2}$ -Octants

In Progress

10/31

Close MMN Hatch and closeout WP

10/1

10/15

Install 2 RPC3 N racks

10/1

10/30

Install rack components in RPC3 N racks

10/1

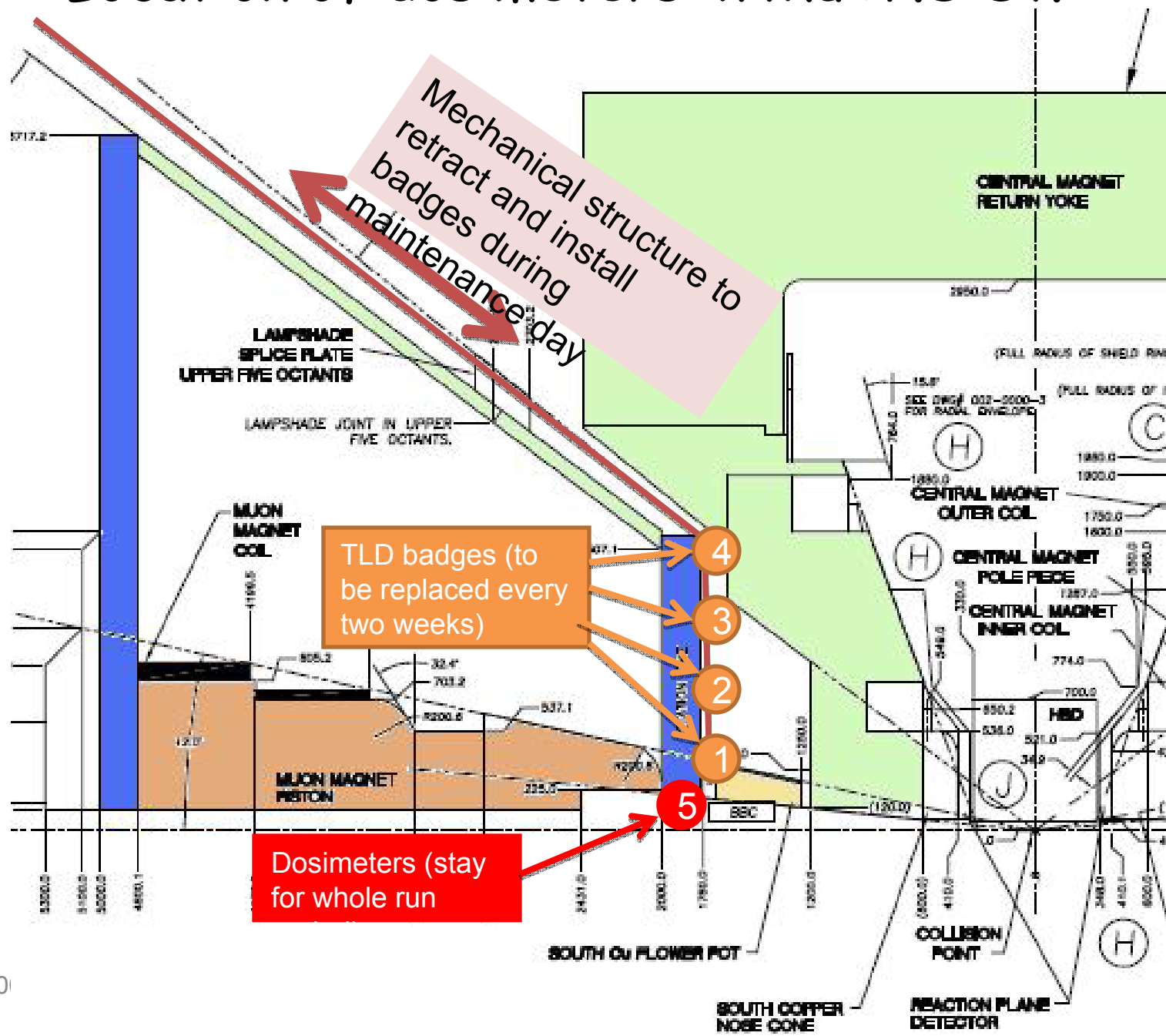
10/31

Attach cables to RPC3 N racks and to Detector $\frac{1}{2}$ octants

10/1

10/30

Location of dosimeters in MuTr.S St.1



MuTRIG-FEE Status

Itaru Nakagawa
RIKEN/RBRC

Installation Status

- Signal Cable Installation → 95% done.
 - One more octant to go (3 hours)
- Plumbing → 4 more octants to go.
Expected to be done by next week.

Remaining Tasks (Except for Checks)

- Noise Hunting South St-3, Oct-2&4 (1day)
 - About factor of 2 higher than normal
- Noise Hunting South St-1, Oct-1 (1/2day)
 - Noise source is already identified. (from HV). Have some idea how to quench it.
- Thermocouple Installation (a few hours)
- St-1 Re-capacitation work & Source test (3~4 days)
 - Requires Gas flowing over the weekend
 - A few anode cards in plane-1
 - Soldering capacitors
 - Terminators
 - Source test

Installation Check List

- **Miscabling**
 - Visible inspection ✓
 - Data consistency check (by running calibration) ✓
- **ADTX Performance**
 - Slow control ✓
 - PROM Download ✓
 - Efficiency ✓
 - Fake hit ✓
 - Timing ✓
- **MuTR FEE Performance**
 - Noise w/o HV off ✓ (Some strips remain high)
 - Noise w/ HV on
 - Gain → stereo ~ 1, non-stereo~0.9 ✓
- **LV**
 - Miscabling
 - LV measurement at Chassis with all other power on ✓

Would like to repeat after the APS meeting.

Final Check List Before Scaffold Disassembly

- Complete ADTX performance check
- Confirm rigid ground connection (thumbscrews)
- Confirm good optical connection
- Confirm dip switch status
- Confirm good DCM / arcnet connections
- Miscabling visual&software check

Ongoing Tasks with Scaffold Disassembly

- OASys camera alignment. (~15 minutes/camera, total 56 cameras)

October 2009

September 2009							October 2009							November 2009						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29	30				25	26	27	28	29	30	31	29	30					

■ 祝祭日

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Activities and Events:

- Noise Hunting, St-1 Recap.** (Green arrow from Thursday 1 to Friday 2)
- Miscabling/performance Checks.** (Green arrow from Sunday 4 to Tuesday 6)
- American & Japanese Physics Society Joint Meeting** (Blue shaded area from Monday 12 to Saturday 17)
- Final Miscabling/performance Checks. OASys Camera Alignments** (Green arrow from Monday 19 to Thursday 22)
- Lampshade Reinstallation** (Red arrow from Monday 26 to Thursday 29)

North Arm Activity

- St-1 HV connection in Octant-6 at Anode → November?
- High Noise in St-3, Oct-1 (Requires to keep hatch open) → 4th week of Oct.

Tasks with slipped starting dates

Task	Start Date	End Date
Plan and install 2 new PHENIX gas pad expansion pads	In progress	10/30
Vendor install Ar dewar & vaporizer	In progress	10/30
Install rails and fences on gas pad	In progress	10/30
Install RPC3 N support base & grout	In progress	10/1
Install Station 3 N pitch control (unistrut rails) on pedestal and east and west gap 5 north walls and attach to support bases (tall column)	In progress	10/2
Install RPC3 N $\frac{1}{2}$ Octants (16 days)	9/21	10/30



Task	Start Date	End Date
Add single-button ON/OFF controls to some LV GUIs	On Hold	On Hold
Determine optimal baud rate for EC North RMC	Done	Done
Remove the temporary FlatPAC in SMT4 and install two new MegaPACs	Done	Done
Install LV Dist modules in MuTrigger S.	In Progress	12/1
Remove temporary MegaPAC in sRPC1 rack and install new full MegaPAC and finish controls for it	7/20	12/1
VTX/FVTX LV Dist system evaluation (VTX Done)	In Progress	12/1
Prep for production of up to 39 boards in 4 crates (VTX/FVTX)	In Progress	12/1
VTX/FVTX cooling system interlock design	7/20	12/1
Evaluate possible design for 4x1 GL1 L1 triggers	In Progress	12/1
Test direct ethernet implementaion on Maszi's new HV control interface board	On Hold	On Hold
DCM rack electric prep	8/3	10/30
Rack room re-organization	9/1	11/30
CM Power Upgrade	9/1	11/30

More Continuing Tasks currently underway (elec., cont'd.)

Task	Start Date	End Date
AH Crane 110 switch for lockout	9/14	10/31
Test/replace rack transient suppression	7/20	12/1
UPS feeds for GTM and GL1 racks	7/20	12/1
Cordless phones in tunnel	7/20	12/1
Individual relays on all HV supplies	7/20	12/1
SF6 alarm to MCR?	7/20	12/1
More volts to EMCAL FEM's?	On Hold	On Hold
Revisit LV systemization/standardization of controls, etc.	On Hold	On Hold
Correct wiring of the DCM crates enables	On Hold	On Hold
Replace ECB1&2 (ADAM5000s) with a single new ADAM5000E	On Hold	On Hold
Replacement OPC server computers	In Progress	12/1
Replace old PCI type RS485 interface boards with USB-Fiber and Fiber-RS485 system	In Progress	12/1



More Continuing Tasks currently underway (mechanical)

TECHNICAL SUPPORT NOON

Task	Start Date	End Date
Design supports for Beampipe upgrade	In Progress	11/30
Fan Tray replacements (as time permits)	In Progress	11/30
DCM rack supply & Return plumbing	10/5	10/16
DCM rack internal plumbing	10/19	10/30
Design support for FOCaI	In Progress	11/30
Design support for FVTX	In Progress	11/30
Design & Fabrication support for VTX	In Progress	11/30

Continuing Tasks currently underway (gas)

Task

Start Date End Date



Get AC's installed in mixing house	7/20	12/1
Investigate shed/larger bottles for R134A	7/20	12/1
Replace damaged compressed air flowmeter	7/20	12/1
Add check valves to some supply lines (as needed)	7/20	12/1
Design and build heat exchanger for HBD system	In Progress	12/1
Replace/ regenerate HBD purifier and driers (late Fall)	In Progress	10/9
Send mass flowmeters out for recalibration (DC/PC, MuID, TOF.W)	7/20	12/1
Replace pad chamber flowmeters in IR, re-label	Postponed	Postponed
Investigate Mutr station 2 gas loss. Confirm labeling	Postponed	Postponed
Replace/upgrade gas house PC's	In Progress	12/1
Re-route several gas lines in the RPC3 south gap	Postponed	Postponed
Run gas lines to North tunnel	7/20	12/1
Design and build gas humidifier	In Progress	12/1
Layout and build North distribution panel	In Progress	12/1
Run Signal/control lines to north tunnel (line goes to IR panel first)	Done	Done
Build RPC gas rack for mixing house (do during run)	Postponed	Postponed
Install electronic and Gas PC in gas house	In Progress	10/9

Expected IR Configuration During Shutdown '09

- Now-10/15 MMS south, CM in run position, EC in AH
WC in west position (against wall), scaffolding
in station 1 and station 2/3 south
- 10/16-11/10 MMS, CM & WC positions TBD, EC in AH
- 11/10-12/1 MMS & CM in run position, EC and WC can be
moved east west ~3 ft

These dates are approximate and subject to change

TECHNICAL SUPPORT NOON

October Schedule

Task

Start Date End Date

TECHNICAL SUPPORT NOON

Remove MMS Sta 2/3 scaffolding

10/12

10/23

Commission RPC3 N racks and detectors

10/12

10/30

Final leak test new Ar dewar/vaporizer and Closeout

10/15

10/31

Install Empties racks on gas pad

10/15

10/31

Reinstall MMS lampshades

10/26

10/30

Install new PHENIX north tunnel thermal/vapor barrier
replacing crystal palace

10/31

11/15

November Schedule

Task

Start Date End Date

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- Install heaters and thermostat(s) for RPC3N thermal control 11/2 11/6
- Reinstall PHENIX North tunnel shielding (3 days) 11/2 11/6
- Replace EC water hoses below EC and test 11/2 11/7
- Cooldown for Run 10 Starts 11/7 11/7
- Move MuID Collars to IR 11/7 11/7
- Disconnect electric & Fiber in EC 11/2 11/7
- Remove ladder & dumb waiter from EC & Fold up EC platforms in AH (1 day) 11/9 11/10
- Veterans Day Holiday - no work 11/11 11/11
- Remove IR Floor plates and move 12 ton cart to AH 11/12 11/12
- Move EC to IR 11/12 11/13
- Reconnect electric and fiber to EC 11/16 11/20
- Reinstall ladder & dumb waiter on EC & Fold down EC platforms in IR (1 day) 11/16 11/20
- Pink sheets, white sheets, blue sheets 11/16 12/1
- Move MMS north, Install MuID Collars 11/23 11/25
- Assemble shield wall base and wall in AH 11/23 11/30
- Thanksgiving Holiday - no work 11/26 11/27
- Roll in shield wall 11/30 11/30
- Start Run 10, All shutdown activities completed 12/1 12/1



DC East Repair Proposal

The DC has several broken wire inside that short quite a large number of good wires and reduce available acceptance of the detector. Usually wires are removed right before the run since new broken wires can appear at any time, most often it happens when electronics is put in 24/7 operation. However, several wires broken on the very top of the DCE are not reachable from the CM lift table or otherwise when EC is in IR.

The repair itself is going to be a standard procedure that involves: 1) light cleaning and cutting of window; 2) removal of broken wires; 3) sealing of the chamber.

To perform the repair a few things are needed:

- 1) Operational DC-PC1 HV system to check the current state of the detector and try to locate broken wires before opening the detector.
- 2) Some support to have an access to the very top of the DCE. One of the possibilities is a man lift (all necessary exams must be taken). **Vertical scissor lift is being looked into (D. Phillips)**
- 3) Some support from the gas mixing house to check that the detector is sealed properly after the repair.
- 4) **Needs work permit (D. Lynch will create)**

All instruments which are required for the repair are at Stony Brook.

Repair must be performed before October, 25 when DC experts leave to return to Russia.

2009 Building Maintenance Issues

TECHNICAL SUPPORT NOON

- Roof leaks in utility bathroom at northwest corner behind tech offices and over door between rack room and assembly hall
- Heat wrap tape for trailer bathroom toilet drains to prevent freeze/clogging in winter.
- Improved Rack Room AC performance: New AC on order
- General maintenance for Trailer Offices and Gas Mixing House stairs, ramps and siding, gutters, etc. (cleaning and repairing worn/rotted wood): Carter has placed work orders
- Icy conditions at mixing house north stairs: Need new Mixing House Gutter
- Purchase and install 2 AC's in Phenix Gas Mixing House
Suggested model : McMaster part number: 1817K89 (19.5 K btu)



Safety, Security, etc.

1. Annual performance appraisals: please take a few minutes to input on your achievements and accomplishments for the past year (October 1, 2008 to September 30, 2009). Make sure you list the jobs big and small that you worked on, parts and equipment that you designed, helped design, fabricated and or assembled, etc. Major efforts included HBD, MuTrigger FEE upgrade, RPC Factory, RPC3 North installation, PC1 repair, DC repairs, MuTr troubleshooting, VTX, FoCAL, FVTX. Your accomplishments include completion of the 2008 shutdown tasks and on time startup of PHENIX for run 9. Don't forget that we maintained a safe and injury free workplace, kept our training current, and continually provided expert technical assistance in all matters PHENIX.
2. New ODH Medical Form - Anyone who will need to access any portion of the RHIC tunnel which is or will be posted as ODH-1 (e.g. North & South RPC3 areas) needs to fill out the new form. It should have been forwarded to you Winnie Yu, but if you don't have it, I can get you a copy.
3. Tier 1 review this week. Only items: (a) stuff in front of 208/408 panels on South side of AH. (b) 2 electric winches without inspection tags.

JOB-SITE REVIEW

Overview

The purpose of a job-site review is to improve a person's situational awareness when first arriving at the job site. People should take the time to develop an accurate understanding of critical indicators, system/equipment condition, work environment, hazards, and even team members. Taking the time necessary to get acquainted with the immediate work area helps individuals to establish a healthy sense of uneasiness. It also boosts their questioning attitude and enhances the accuracy of their situation awareness.

Use This Tool

Upon arriving at the physical work location
 Before interaction with risk-important equipment
 During a walk-down of a work package
 When a potential safety hazard is present
 After extended breaks or interruptions

Recommended Practices When Using This Tool

1. Explore the job site for a few minutes by walking around and looking at the work area and adjacent surroundings to identify the following.
 - Industrial safety, radiological, and environmental hazards
 - Trip-sensitive equipment to avoid jarring or disturbing (to avoid spurious trips)
 - Right system, right equipment, right component
 - Critical parameters or indicators important for task success
 - Error precursors (at critical steps)
 - Conditions consistent with the procedure and pre-job briefing.
2. Talk with coworkers or the supervisor about unexpected hazards or conditions and the precautions to take.
3. Eliminate hazards, install appropriate defenses, or develop contingencies before proceeding with the task.

Avoid the Following At-Risk Practices

Hurrying, not taking the time to look around the job site
 Thinking that repetitive work is "routine" or "simple", meaning "no risk"
 Not talking about hazards or precautions with co-workers
 Not talking about "gut feelings"
 Failing to eliminate hazards or installing appropriate defenses

Where To Find PHENIX Engineering Info



We're into October and time is running out on the Shutdown. But we're mostly on schedule except for the RPC3N for which the next few weeks will be critical.

Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

